

4. (Original) A method of producing an optical recording medium in which a recording layer comprising a photo-responsive polymer material is sandwiched between a pair of protective substrates, the method comprising:

injection molding the photo-responsive polymer material into a plate shape having a thickness of 0.1 mm to 5 mm; and

hot-pressing the molded polymer material sandwiched between the pair of protective substrates so that the molded polymer material is fused with the pair of protective substrates to form an optical recording medium.

5. (Original) The method of claim 4, wherein the protective substrates are transparent plastic substrates.

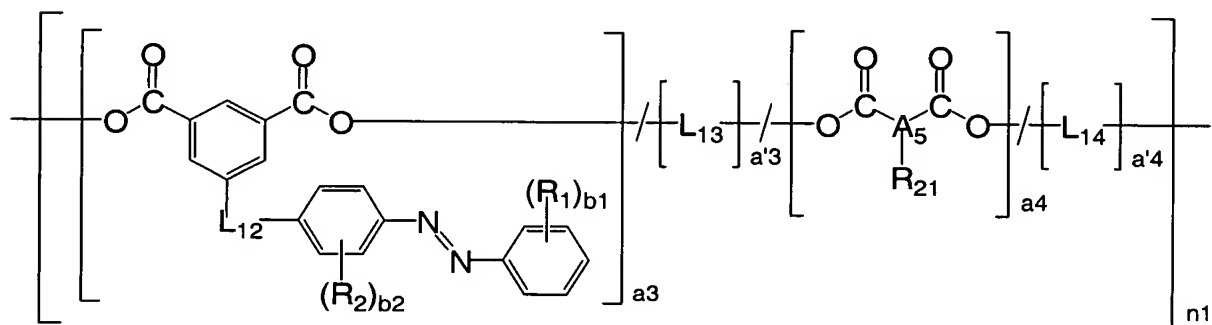
6. (Original) The method of claim 4, wherein the protective substrates have a Tg which is higher than a Tg of the recording layer.

7. (Original) The method of claim 4, wherein the recording layer is a photo-responsive material that exhibits photo-induced birefringence.

8. (Original) The method of claim 7, wherein the photo-responsive material comprises at least one selected from the group consisting of a polymer having a photo-isomerizable group on a side chain thereof, a polymer crystal having a photo-isomerizable group on a side chain thereof, and a polymer in which photo-isomerizable molecules are dispersed.

9. (Original) The method of claim 4, wherein the photo-responsive polymer material contains a polyester represented by the following formula (1):

Formula (1)



wherein R₁ and R₂ each independently represent a hydrogen atom or a substituent; b₁ represents an integer from 0 to 5; b₂ represents an integer from 0 to 4; when b₁ is 2 or more,

a plurality of R_1 may be the same as or different from each other and the plurality of R_1 may form a ring by being linked with each other; when b_2 is 2 or more, a plurality of R_2 may be the same as or different from each other and the plurality of R_2 may form a ring by being linked with each other; R_{21} represents a hydrogen atom or a substituent; A_5 represents a divalent linking group when R_{21} is a hydrogen atom, and A_5 represents a trivalent linking group when R_{21} is a substituent; L_{12} to L_{14} each independently represent a divalent linking group; a_3 represents a number from 0.0001 to 1; a_4 represents a number from 0 to 0.9999; a_3 and a_4 satisfy $a_3 + a_4 = 1$; a'_3 represents a number from 0 to 1; and a'_4 represents a number from 0 to 1; a'_3 and a'_4 satisfy $a'_3 + a'_4 = 1$; and n_1 represents an integer from 4 to 2000.

10. (Original) The method of claim 9, wherein R_{21} has a mesogen group linked to a flexible spacer group.

11. (Currently Amended) A method of producing an optical recording medium having a recording layer comprising a photo-responsive polymer material, the method comprising:

forming the photo-responsive polymer material into a plate shape having a thickness of 0.1 mm to 5 mm by hot-pressing, wherein the recording layer is formed independent of a substrate; and

using the formed polymer material to produce an optical recording medium, wherein the optical recording medium has no substrate.

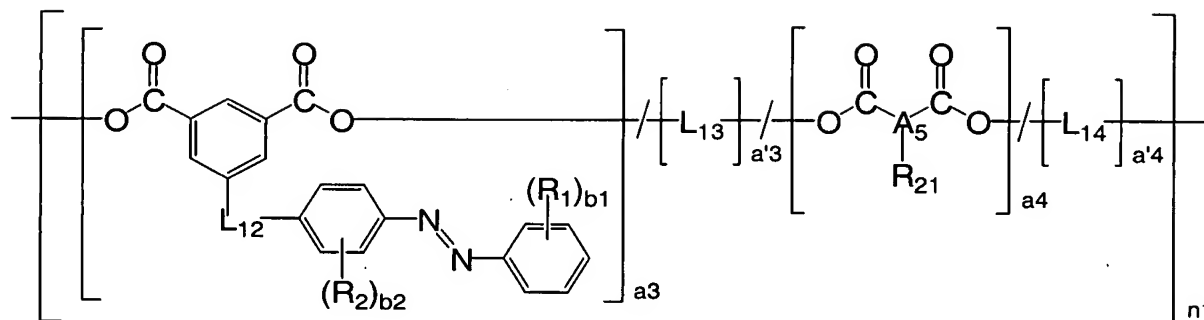
12. (Original) The method of claim 11, wherein the recording layer comprises a photo-responsive material that exhibits photo-induced birefringence.

13. (Original) The method of claim 12, wherein the photo-responsive material comprises at least one selected from the group consisting of a polymer having a photo-isomerizable group on a side chain thereof, a polymer crystal having a photo-isomerizable group on a side chain thereof, and a polymer in which photo-isomerizable molecules are dispersed.

14. (Original) The method of claim 11, wherein the optical recording medium further comprises a protective layer or an antireflection layer.

15. (Original) The method of claim 11, wherein the photo-responsive polymer material contains a polyester represented by the following formula (1):

Formula (1)



wherein R_1 and R_2 each independently represent a hydrogen atom or a substituent; b_1 represents an integer from 0 to 5; b_2 represents an integer from 0 to 4; when b_1 is 2 or more, a plurality of R_1 may be the same as or different from each other and the plurality of R_1 may form a ring by being linked with each other; when b_2 is 2 or more, a plurality of R_2 may be the same as or different from each other and the plurality of R_2 may form a ring by being linked with each other; R_{21} represents a hydrogen atom or a substituent; A_5 represents a divalent linking group when R_{21} is a hydrogen atom, and A_5 represents a trivalent linking group when R_{21} is a substituent; L_{12} to L_{14} each independently represent a divalent linking group; a_3 represents a number from 0.0001 to 1; a_4 represents a number from 0 to 0.9999; a_3 and a_4 satisfy $a_3 + a_4 = 1$; a'_3 represents a number from 0 to 1; and a'_4 represents a number from 0 to 1; a'_3 and a'_4 satisfy $a'_3 + a'_4 = 1$; and n_1 represents an integer from 4 to 2000.

16. (Original) The method of claim 15, wherein R_{21} has a mesogen group linked to a flexible spacer group.

17. (New) An optical recording medium having a recording layer comprising a photo-responsive polymer material being formed into a plate shape having a thickness of 0.1 mm to 5 mm, wherein the optical recording layer is formed independent of a substrate, and wherein the optical recording medium has no substrate.

18. (New) The optical recording medium of claim 17, wherein the recording layer comprises a photo-responsive material that exhibits photo-induced birefringence.

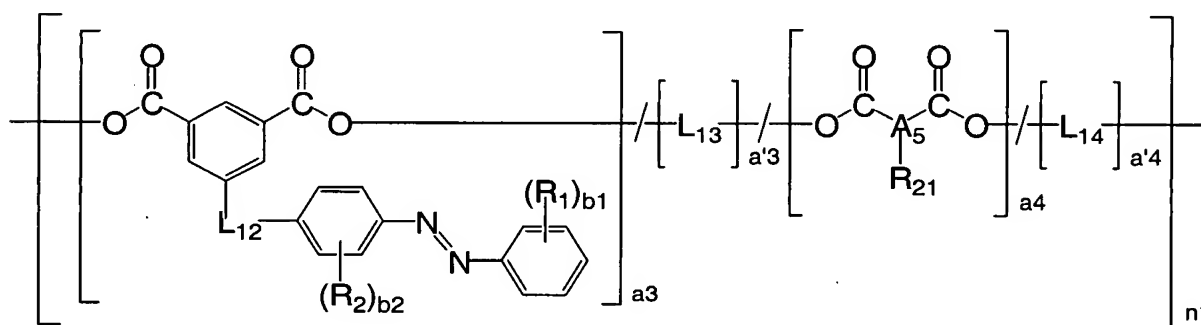
19. (New) The optical recording medium of claim 18, wherein the photo-responsive material comprises at least one selected from the group consisting of a polymer having a photo-isomerizable group on a side chain thereof, a polymer crystal having a photo-

isomerizable group on a side chain thereof, and a polymer in which photo-isomerizable molecules are dispersed.

20. (New) The optical recording medium of claim 17, wherein the optical recording medium further comprises a protective layer or an anti-reflection layer.

21. (New) The optical recording medium of claim 17, wherein the photo-responsive polymer material contains a polyester represented by the following formula (1):

Formula (1)



wherein R_1 and R_2 each independently represents a hydrogen atom or a substituent; b_1 represents an integer from 0 to 5; b_2 represents an integer from 0 to 4; when b_1 is 2 or more, a plurality of R_1 may be the same as or different from each other and the plurality of R_1 may form a ring by being linked with each other; when b_2 is 2 or more, a plurality of R_2 may be the same as or different from each other and the plurality of R_2 may form a ring by being linked with each other; R_{21} represents a hydrogen atom or a substituent; A_5 represents a divalent linking group when R_{21} is a hydrogen atom, and A_5 represents a trivalent linking group when R_{21} is a substituent; L_{12} to L_{14} each independently represents a divalent linking group; a_3 represents a number from 0.0001 to 1; a_4 represents a number from 0 to 0.9999; a_3 and a_4 satisfy $a_3 + a_4 = 1$; a'_3 represents a number from 0 to 1; and a'_4 represents a number from 0 to 1; a'_3 and a'_4 satisfy $a'_3 + a'_4 = 1$; and n_1 represents an integer from 4 to 2000.

22. (New) The optical recording medium of claim 21, wherein R_{21} has a mesogen group linked to a flexible spacer group.